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ABSTRACT

This guide outlines a plan of action for developing and administering vocational agricultural programs at the state level. Discussed in the individual sections of the guide are the following topics: the rationale for agricultural education programs in the classroom; guidelines for action (creating a coalition and task force, identifying needs and increasing awareness, and planning for action); an action letter to solicit community support for vocational agricultural programs; levels and steps in planning vocational agricultural programs; concepts to be addressed in vocational agricultural programs; suggested approaches for integrating generalizations about agriculture into existing elementary and secondary curricula; materials development; teacher training; resources available to vocational agriculture teachers and students; suggestions for state-level administrators to follow when working with schools; and highlights of American agriculture. (MN)

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AGRICULTURE IN THE CLASSROOM

ED233178

Plan for Action at the State Level

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Agriculture in the Classroom
Room 536A
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AGRICULTURE IN THE CLASSROOM

Plan for Action at the State Level

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Introduction

Agriculture is important to all of us. It is directly important by providing us with our food, clothing, and shelter. Indirectly, it makes a major contribution to the economy of our nation and to international trade. However, the pervasive importance of agriculture is rarely understood by the public, including students and their teachers.

People in agriculture want to inform educators and students about the nature and problems of agriculture. At the same time, many school administrators need to build support for their programs in the face of declining enrollments and shrinking budgets. A discussion of agriculture's needs, on one hand, and the problems of the education community, on the other, might well lead to cooperative efforts beneficial to both groups.

Since the constitutional responsibility for education rests with the States, it is reasonable to initiate action at the state level. Furthermore, efforts that originate within the local community are likely to result in cooperation and better working relations between the people in agriculture and educators.

Whichever is your main interest, you can initiate the steps to increase communication between agriculture and the education communities.

Rationale

Agriculture is the foundation of human life.

How food and fiber are produced and distributed has affected the development of mankind for thousands of years. Because agriculture is so closely related to the way we live, an understanding of how it works can be readily incorporated into an understanding of all subjects studied in our educational system.

American agriculture affects all of us as consumers, workers, and citizens. As consumers, 20 percent of our personal expenditures are for food. The agricultural sector provides employment for one out of every five workers in our labor force. In our country, the 2 percent of the population who are farmers feed the other 98 percent of the population as well as many millions of people around the world.

Public policy issues exist which affect the well being of American agriculture, and consequently, the well being of every American. These issues include: (a) Are we running out of farm land? (b) Do we have enough clean water? (c) Is current scientific research adequate for the growing worldwide demand for food? (d) What responsibility does the United States have to feed the world?

A thorough understanding of the interdependence of American agriculture with the rest of our economy will provide a sound basis for the decisions that must be made on these and other public issues. This understanding must be gained in our educational system before graduation from high school.

I. Create a Coalition and Task Force

Farm and ranch leaders should contact the state head of agriculture to initiate a meeting with the State Commissioner of Education. At the meeting ask the education leaders to explain what is currently being taught about agriculture (other than vocational agriculture) in the curriculum. Ask for ideas about how agricultural representatives could be used as resource people by schools and teachers.

Identify a nucleus of key people from education and agriculture and bring them together to discuss the current status of teaching about agriculture. These key people may include leaders of state boards of education and agriculture, top administrators of state agencies for agriculture and education, and officers in agricultural organizations and teacher groups. The Land-Grant University should also be represented. The first meeting could be a luncheon or dinner for an informal discussion. Whatever the format of the first meeting, it should result in the identification of needs to be met and steps to be taken.

Once established, the primary goal of the Task Force will be to encourage more effective teaching about agriculture and to assist the educational system in this effort.

II. Identify Needs and Increase Awareness

Specific steps should be:

- to identify the reasons for the state and local education system to teach about agriculture.
- to draft a position paper describing the value of communication and cooperation between the agricultural and educational communities.
- to propose a plan for meeting the needs.

After having met and drafted a plan of action, publicize the group's work. Publicity will help generate more involvement in the program and will get people started discussing the plan and working on some aspect of it.

III. Plan for Action

The Task Force should then--

- develop a consensus and definitions.
- identify action steps.
- implement action steps.
- evaluate.
- review and revise.

There is a great need in most communities for increased understanding of the significance of agriculture. It is important that young people understand the complex issues facing farmers as they produce food and fiber for themselves and for the rest of the nation. The potential for strengthening our communities through increased cooperation between agricultural and educational interests should be obvious. As a result of this program, it may actually become so.

Action Letter

Sample letter for use with community leaders and groups interested in the development, maintenance, or improvement of local education programs. It should be modified according to the interests of the group receiving the letter and the background of the person signing the letter.

Dear _____:

I would like to invite you to attend a meeting on "agriculture in the classroom."

Agriculture is a major part of the national economy. Directly or indirectly, it provides employment for more people than any other single industry in the nation.

Agriculture is a major purchaser of fuel, trucks, tires, chemicals, power, and a long list of industrial goods and services. Agriculture is also a leading innovator in technology and is in the vanguard in many areas of scientific development.

Young people need to understand where their food comes from and how agriculture affects the total economic system in which they live. Such an understanding is essential if they are to deal effectively with agricultural policies and issues in the years to come.

For this reason we would like to encourage educators, agriculturalists, and other interested groups to work together in developing a coordinated, statewide effort to put agriculture back in the classroom. By this we mean discussing modern agriculture and the problems and issues it faces. We mean creating an understanding of the importance of agriculture to the life of the nation and of _____(state name)_____ agriculture's relation to the rest of the world. We are not interested in promoting specific commodities or furthering any political point of view.

In making this suggestion, we fully understand the pressures teachers and school leaders are under to support a variety of community goals. We also appreciate the renewed emphasis on basic educational achievements. We are convinced, however, that creating a greater awareness of the significance of agriculture can help support the fundamental purposes of curricula at almost every grade level. It is important that we develop our plans at the state and local levels, since local schools are led by decisions made at the state level.

Action Letter

I hope you will agree that this could be a useful project for all of us and look forward to seeing you on (fill in time and place, etc.) .

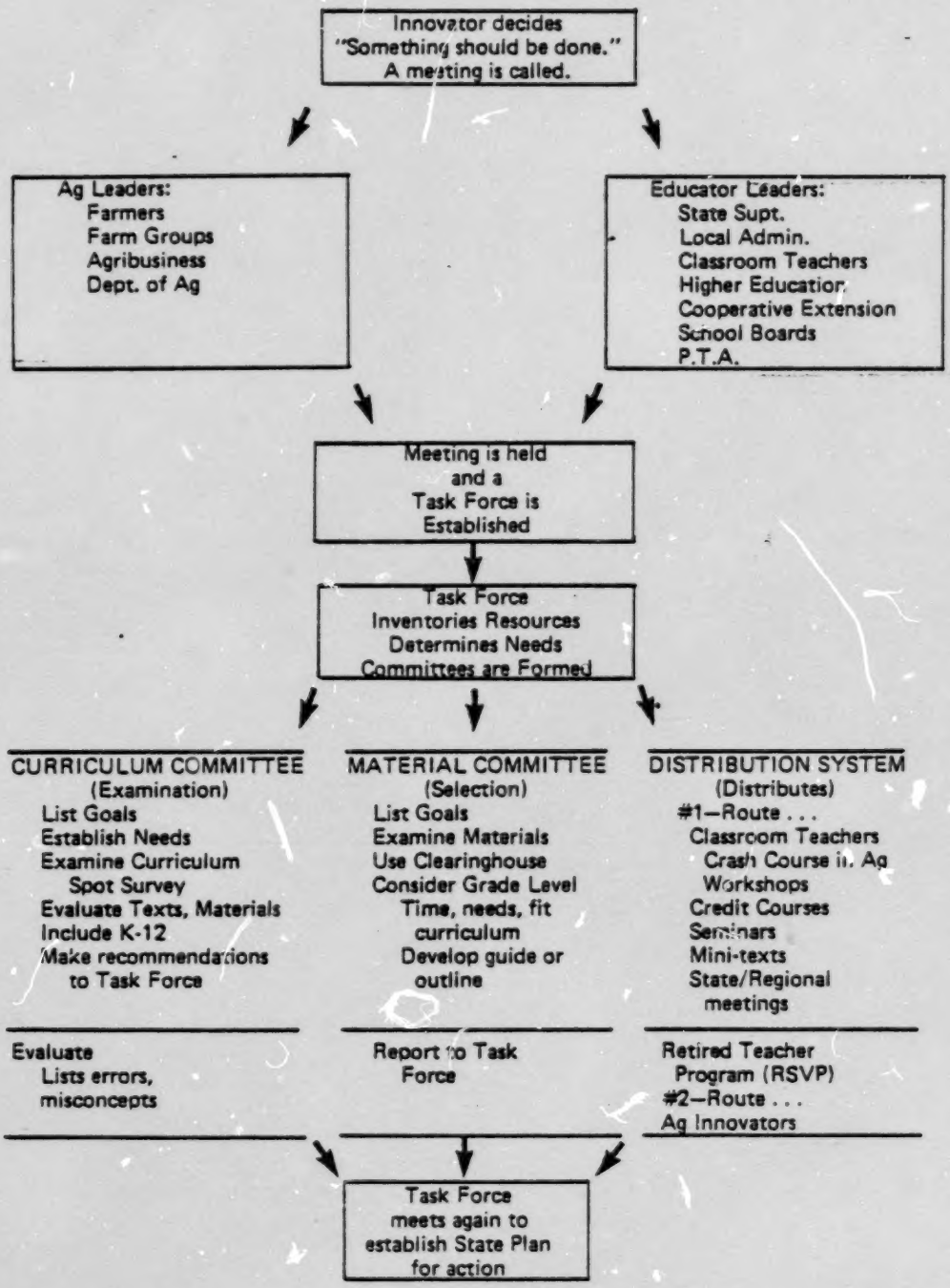
Sincerely,

These items could also be considered in the letter:

1. Why education about agriculture?
2. What is happening around the country and in the state?

These items could be considered in the letter or they might be held for the first meeting:

1. Are materials and resources on agriculture available?
2. What is being done in the state now?
3. How can we work together?


Innovator decides "Something should be done." A meeting is called.
Ag Leaders:
Farmers
Farm Groups
Agribusiness
Dept. of Ag
Educator Leaders:
State Supt.
Local Admin.
Classroom Teachers
Higher Education
Cooperative Extension
School Boards
P.T.A.
Meeting is held and a Task Force is Established
Task Force Inventories Resources Determines Needs Committees are Formed
CURRICULUM COMMITTEE (Examination)
List Goals
Establish Needs
Examine Curriculum
Spot Survey
Evaluate Texts, Materials
Include K-12
Make recommendations to Task Force
MATERIAL COMMITTEE (Selection)
List Goals
Examine Materials
Use Clearinghouse
Consider Grade Level
Time, needs, fit curriculum
Develop guide or outline
DISTRIBUTION SYSTEM (Distributes)
#1—Route . . .
Classroom Teachers
Crash Course in Ag
Workshops
Credit Courses
Seminars
Mini-texts
State/Regional meetings
Evaluate
Lists errors, misconcepts
Report to Task Force
Retired Teacher Program (RSVP)
#2—Route . . .
Ag Innovators
Task Force meets again to establish State Plan for action

Concepts

Teaching about agriculture means bringing more information and ideas about agriculture into a wide variety of things that are already being taught in the schools. These broad concept areas will help educators and farm people see how to fit agriculture into the curriculum and add to the student's understanding of history and the world today.

1. Agriculture and history. Agriculture issues or events as major influences in human history, from making possible the first settled societies, to current world food issues.

2. The geography of agriculture. What grows where and why.

3. Agriculture and technology. How technology and specialization have changed American agriculture in the last 100 years.

4. The economics of agriculture. How the agriculture sector works and the relationship of U.S. agriculture to the rest of the economy. Effects of supply and demand, how prices are set, changing interactions of the factors of production, farming as a business, agribusiness.

5. Agriculture and the world. World food production and distribution and its relationship to American agriculture.

6. Careers. Careers now and in the future.

7. Major policy issues. Land use, conservation, chemicals, government interaction with agriculture, world food supplies for the future, other issues.

Generalizations

Generalizations are statements about an idea or issue that teachers can focus learning activities around. Here are six major generalizations about agriculture followed by suggestions for how the generalizations can be integrated into the curriculum.

1. The agriculture sector plays an important role in the nation's economy. The agriculture industry is the nation's largest single industry encompassing a vast array of sub-industries, employment opportunities, retail and wholesale products and investment dollars.

   Topic Integration

   Elementary
   - careers in agriculture production, agribusiness and food distribution
   - how agriculture supplies our basic needs

   Social Studies
   - investment and productivity
   - agriculture and the GNP

   Business Education
   - agribusiness careers
   - entrepreneurship relative to farming
   - food distribution careers
   - marketing careers

   Consumer Education
   - changes in the structure of the food market
   - careers in the food market

   History
   - the industrial revolution and agriculture

2. Farming as a business has changed over the last 100 years. Economic, social and technological factors have influenced changes in size of farms, number of individuals farming, rural to urban migration, and other business aspects of farming.

   Topic Integration

   Elementary
   - science in agriculture
   - machines in agriculture
   - comparison of urban and rural life

Social Studies
- effect of agriculture technology on society
- rural-urban migration
- labor costs
- specialization

Business Education
- the changing agriculture business
- sole proprietorship
- partnership
- corporate farms (conglomerate and family corporations)
- commodity markets

Consumer Education
- agricultural population
- changes in farm ownership
- commodity markets

History
- history of agriculture terminology
- cultural heritage of agriculture

3. The law of supply and demand is involved in both farm input and farm output. Many factors (such as retail prices, interest rates, cost of labor, availability of capital, weather and other production factors) affect both supply and demand for agricultural products.

Topic Integration

Elementary
- climate, terrain and location of agriculture production
- conservation measures
- how food is produced
- how food is processed

Social Studies
- relationship of land, labor, water energy and capital
- transportation requirements

Business Education
- productive resources in agriculture
- supply and demand
- business management

Consumer Education
- food production
- food costs and pricing
- supply and demand

History
- history of food prices
- land use in U.S. history

4. The income of a farmer is affected by both the nominal price levels for products produced as well as the relative prices of competing products, and the goods and services used in the production of crops or livestock.

Topic Integration

Elementary
- the population and food requirements
- how agriculture satisfies basic needs

Social Studies
- price levels
- price mechanism
- income distribution in agriculture

Business Education
- farming as a business
- pricing in agriculture
- marketing in agriculture
- distribution in agriculture

Consumer Education
- price level changes
- consumer price index
- food prices

History
- the farmer in U.S. history

5. The products of American agriculture play an important role in the physical and economic health of the nation and the world.

Topic Integration

Elementary
- world population and food requirements
- agriculture and world trade

Social Studies
- agriculture exports
- embargos, tariffs
- international economics
- world politics
- balance of trade
- economic interdependence

Business Education
- international trade
- balance of trade

Consumer Education
- agriculture and world trade
- food policies

History
- agriculture and food policies of nations

6. Government actions and policies greatly influence various aspects of the agriculture sector. Knowledge about agriculture issues enables citizens to participate intelligently in the adoption of public policy.

Topic Integration

Elementary
- conservation methods in agriculture
- ecology and agriculture
- agrichemicals

Social Studies
- land use
- international economics
- productivity of land
- subsidies
- welfare programs

Business Education
- business liability and social responsibility
- government regulation

Consumer Education
- environmental issues
- use of chemicals in agriculture
- food regulations
- government intervention and consumer protection

History
- politics of agriculture
- role of government in agriculture

Guidelines for Materials Development

If your state or organization is going to develop school-directed material, here is a basic how-to. The overall principle to remember in developing printed or audio-visual materials is this: the more you involve the potential user in the planning, writing and evaluating of a new material, the more successful it probably will be.

The ten basic steps listed below are suggested for developing successful classroom materials on agriculture.

1. Determine honestly and objectively the purpose of the new material. Materials produced by a business or commodity group can be of three types: consumer education materials, information materials, or promotional materials. (See definitions in footnote.) To be suitable for use by schools, a material must be either a consumer education material or an information material. Be careful not to use education or the educational system to openly or covertly market a product (promotion material) under the guise of social responsibility!

2. Decide what major ideas (concepts) you think students should learn.

3. Decide what means of financing and methods of distributing the finished teaching aid you have available to you.

   - Can it be given to teachers free or will you have to charge them for it?
   - Are there field people available who can promote or distribute the material locally or will you need to advertise it in teacher magazines?

4. Form a committee of educators and meet with them to discuss their opinions and ideas on what you have decided in points 1 through 3 above.

   - Have more than two on the committee and offer committee members payment for their services.
   - Ask them whether your major ideas fit into subject matter which is already taught in schools.
   - Ask them what age level they think your proposed new material is best suited for.

- Ask them for suggestions as to the best format for the material (printed booklets, activity sheets, charts, study prints, filmstrip, etc.).

5. If necessary, revise the decisions you made in points 1 through 3 above, based on the committee's recommendation (and your budget).

6. Write a first draft of the teaching aid. Send it to the committee and to a few additional educators (not on the committee) and to one or two people who are experts in the specific topic of the material (if you aren't yourself).

   - Ask this evaluation panel to tell you whether the draft meets the objectives, is accurate, and is appropriate to the age of the students for whom it's designed.

7. Rewrite the manuscript based on the comments you receive from your review panel.

   NOTE: Although steps 1-7 can take a fair amount of time to complete, by following them you can be sure that the major investment of money which begins at this point will be well spent. These steps can almost guarantee that teachers will use the material and that students will learn what you want them to learn.

8. Develop art and have the manuscript typeset (if budget allows for professional art work). Develop a few sample copies for use in student tryout.

9. Conduct a small scale tryout with students. (If possible, try to get a cross section sample of teachers and students representing the geographic area you serve and the socio-economic mix of people in it.

10. Make revisions, mass produce, publicize, and distribute. (Include an evaluation card for teachers to fill out when they use the material. This will give you good ideas for revisions if you decide to reprint the material at a later date.)

FOOTNOTE:

Consumer Education Materials are those which are designed to promote an increased awareness or behavioral change in resource management, consumer

decision making, problem solving and/or issue analysis. These materials should also promote an appreciation for and commitment to involvement in public policy consumer issues which affect the social, economic and political environment in which consumers function.

Information Materials are those which present a variety of product or service characteristics to be considered in evaluating, selecting, and/or using goods or services. Their purpose is to present clearly, and without bias, information consumers can use in comparison shopping and pre-purchase decision making.

Promotional Materials are those designed to induce consumers to purchase specific products and/or services. This information is usually developed so that the product or service in question is presented as being superior to the competition, although this superiority may not be substantiated.

Teacher Training

If teachers in your state are going to include more about agriculture in their classes, they need to understand agriculture themselves. Therefore, teacher training is a key part of any state action plan.

Teacher training is an on-going part of the teaching profession. It begins during pre-service preparation and continues throughout a teacher's career. Teachers are never able to consider themselves finished products because the world of education is in a state of flux.

There is little hope that new subjects added to the curricula will be taught successfully if teachers are not provided with new theoretical background and methodology.

Agricultural groups must not only work to get new information into the curriculum but must become involved in programs designed to train teachers to teach the new information.

Programs designed for training teachers may take a number of different forms but most frequently they fall into one of the following categories:

1. Pre-service training which is usually a four-year college program leading to a bachelor's degree and a teaching certificate.

2. In-service training which may take many forms but is usually designed by a school system, a state department of education, or an individual school to meet a special need. They may be:

   - Curriculum development seminars where teachers are paid to develop curriculum while earning graduate college credit.

   - College courses designed to give teachers college credit while meeting an identified need.

   - Short seminars that take place during the regular school day while substitutes teach classes.

Your state should become involved in in-service training for teachers. A number of agricultural groups might join each other in sponsoring two- or three-day workshops to provide the theoretical base that teachers need to teach. Or workshops could focus on presenting information and teaching suggestions on the topics most important to your state.

Resource Guide
Available September 1982

There are a number of print and audio-visual materials for teachers and students on various aspects of agriculture. Some are background information for teachers. Some are booklets, films, or activities for students at various grade levels. These materials are being developed all over the country by farm and commodity groups, and by some educational groups and commercial publishers.

To help teachers find materials they can use in the classroom, and to help groups producing materials know what is available elsewhere, USDA has put together an "Agriculture in the Classroom" Resource Guide. Over 200 organizations and publishers were contacted in searching out materials for the Resource Guide.

The Guide describes each piece of material, indicates the concepts taught, and gives information on price and ordering. The Guide also has a special section listing other resource guides to educational materials about agriculture.

The "Agriculture in the Classroom" Resource Guide lists and describes materials which are primarily about agriculture and related issues. Materials which are largely concerned with nutrition, food preparation (recipes), promotional information, or buying advice on food and fiber are not included because many other resource guides already list such materials.

For your "Agriculture in the Classroom" Resource Guide write to:

Resource Guide
Room 535A
USDA
Washington, DC 20250

Working With Schools

The following suggestions will be helpful when working with schools. Not every principle applies to every school in your locality, but all have been observed in one school district or another.

1. It is essential that the school board, superinterdent, and administrative personnel of a school district be supportive of a program, but the real results show up in the classroom. The classroom is where the experience and the commitment of the teacher make or break a program.

2. Unlike businesses, which usually have a top-down organization for communications, most changes in classroom behavior occur from the bottom-up. That is, teachers find out about a good idea or a good source of information and bring it to their own classroom first.

3. Teachers appreciate good classroom materials and ideas. They are not shy about using new materials or techniques if they are convinced the changes will benefit children. Materials which are primarily "public relations" in purpose find little support in the classroom. Only when it can be demonstrated that a piece is usable with students are teachers likely to bring it into their classrooms.

4. Educators may be unaccustomed to some of the ways of operating in the business world or on the farm. Many of the people you come in contact with will be unaccustomed to your tight schedule, blunt conversation, and impatiences with slow rates of change. It is not unusual for people from the business world to expect results faster than is practical in most school systems.

5. Teachers are accustomed to developing programs with other school people. They tend to see most things in terms of their classroom. Teachers are "turned off" by being told how to teach by non-educators.

6. Teachers reject dogmatic presentations and seek a balance of ideas in their classrooms.

7. "Educators see the curriculum as a suit of clothes. It must fit right to the needs of the students and wear well with the teacher. It should be sufficiently flexible to

allow alterations for improvement and growth, yet woven with basic educational materials which will remain in style with time." (Source unknown)

* Adapted from a presentation by William Stepien.

Highlights of American Agriculture

- One farmer provides food and fiber for 78 people.
- One farmer creates jobs for more than 5(5.2) nonfarm people who produce the things farmers need and who process, transport, and merchandise the crops farmers harvest.
- American agriculture is the world's largest industry with assets exceeding $1 trillion. This industry employs nearly 23 million people, a full 22 percent of America's total labor force. The agricultural industry encompasses manufacturing, farming, transporting, processing, and merchandising.
- In the last 20 years, agricultural productivity per hour has increased more than 3 times faster than nonagricultural productivity.
- The United States, with less than three-tenths of 1% of the world's farmers and farmworkers, produces 66% of the world's total output of soybeans, 60% of the grapefruit, corn 50%, sorghum 31%, green peas 27%, beef 2[illegible], oranges 22%, peaches 21%, tomatoes 16%, eggs 15%, wheat 14%, and pork 13%.
- Today, 1 hour of farm labor produces 14 times as much food and crops as it did 60 years ago.
- Farm exports take the production of about 1 cropland acre out of 3--which means that without exports about one-third of the nation's productive farmland would be idled, driving up the per-unit costs of production and, in turn, food prices.
- In 16 states, one-third to one-half of farm income comes from agricultural exports: Arkansas, Illinois, Indiana, Iowa, Kansas, Louisiana, Minnesota, Mississippi, Missouri, Montana, Nebraska, North Carolina, North Dakota, Ohio, Oklahoma, and South Carolina.